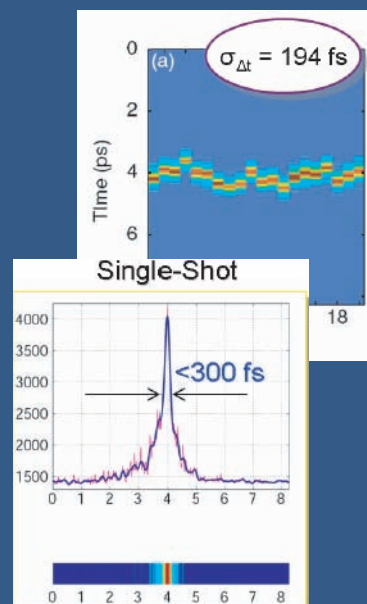


Jerome Hastings

“The Whys and Hows of Ultrafast X-ray Science”

Jerome Hastings received his Ph.D. in Applied Physics from Cornell University in 1975. After a year and a half at Oak Ridge National Laboratory, he spent a year at the Stanford Synchrotron Radiation Laboratory in 1976. For the next 25 years he worked at Brookhaven National Laboratory, coming to the Stanford Linear Accelerator Center in 2001 as an assistant director. His research interests are in x-ray physics, ultrafast x-ray optics, and synchrotron radiation instrumentation. He serves in a number of scientific advisory panels to existing and future light sources. He is also a fellow of the American Physical Society.

The invention of ultrafast optical lasers with pulse durations comparable to vibrational periods in solids and motions of molecules undergoing structural changes has provided a look at the dynamics that govern important processes in nature. X-rays, on the other hand, with wavelengths comparable to the distances between atoms, have been the key tool for the study of the average structure of liquids and solids at atomic resolution. With recent developments in ultrafast x-ray sources, the combination of appropriate temporal resolution and spatial resolution is opening new scientific opportunities for direct observation of atomic-scale dynamics. The Sub-Picosecond Pulse Source at SLAC is just such a source. The science and technology of ultrafast x-ray studies will be discussed in this context, as will the extension of these studies to opportunities afforded by the Linear Coherent Light Source x-ray free-electron laser.



Wednesday, December 7, 2005

3:00 p.m.

Bldg. 402, APS Auditorium • Argonne National Laboratory

APS COLLOQUIUM